

Serial No.: 09/802,285
Conf. No.: 6877

- 2 -

Art Unit: 1652

In the Claims

Applicant has submitted a new complete claim set showing marked up claims with insertions indicated by underlining and deletions indicated by strikeouts and/or double bracketing.

Please cancel claims 23, 27 and 61-66 without prejudice or disclaimer.

Please add new claims 70 and 71 as provided below.

Please amend pending claims 67 and 69 as noted below.

1-27. (Cancelled)

28. (Previously Presented) A substantially pure heparinase III, comprising:
a polypeptide having the amino acid sequence of the mature peptide of SEQ ID NO: 2, wherein at least one histidine residue selected from the group consisting of His 36, His105, His110, His139, His152, His225, His234, His241, His424, His469, and His539 has been substituted with a residue selected from the group consisting of alanine, serine, tyrosine, threonine, and lysine.

29-31. (Cancelled).

32. (Previously Presented) A substantially pure heparinase III comprising:
a modified heparinase III having a modified product profile, wherein the modified product profile of the modified heparinase III is at least 10% different than a native product profile of a native heparinase III,

wherein the substantially pure heparinase III has the amino acid sequence of the mature peptide of SEQ ID NO: 2 where at least one histidine residue selected from the group consisting of His 36, His105, His110, His139, His152, His225, His234, His241, His424, His469, and His539 has been substituted with a residue selected from the group consisting of alanine, serine, tyrosine, threonine, and lysine.

33. (Previously Presented) A substantially pure heparinase III comprising:

Serial No.: 09/802,285
Conf. No.: 6877

- 3 -

Art Unit: 1652

a modified heparinase III that can cleave a heparan sulfate substrate having a modified heparinase III k_{cat} value, wherein the modified heparinase III k_{cat} value is at least 10% different than a native heparinase III k_{cat} value,

wherein the substantially pure heparinase III has the amino acid sequence of the mature peptide of SEQ ID NO: 2 where at least one histidine residue selected from the group consisting of His 36, His105, His110, His139, His152, His225, His234, His241, His424, His469, and His539 has been substituted with a residue selected from the group consisting of alanine, serine, tyrosine, threonine, and lysine.

34. (Previously Presented) A pharmaceutical preparation comprising a sterile formulation of the substantially pure heparinase III of claim 28 and a pharmaceutically acceptable carrier.

35. (Previously Presented) An immobilized substantially pure modified heparinase III comprising:
a modified heparinase III as in claim 28, and
a solid support, wherein the modified heparinase III is immobilized on the solid support.

36-66. (Cancelled).

67. (Currently Amended) The substantially pure heparinase III of claim 28, wherein the polypeptide has at least one substitution within a histidine residue selected from the group consisting of His110, His225 and His241.

68. (Previously Presented) The substantially pure heparinase III of claim 28, wherein the polypeptide has a substitution at His110.

69. (Currently Amended) The substantially pure heparinase III of claim 2829, wherein the polypeptide has a substitution at His241.

Serial No.: 09/802,285
Conf. No.: 6877

- 4 -

Art Unit: 1652

70. (New) The substantially pure heparinase III of claim 28, wherein the polypeptide has a substitution at His225.

71. (New) The substantially pure heparinase III of claim 70, wherein the His225 is substituted with alanine.